Track-out and muddy water are tell-tale signs of ineffective BMPs on a construction site.

Sediment in streams:
- Fills in macroinvertebrate habitat
- Covers fish eggs and nests
- Absorbs heat, increasing water temperature
- Blocks sunlight, preventing photosynthesis

What's the Issue?

When water runs off a property, it flows into the City's municipal separate storm sewer system (MS4) which is composed of streets, storm drains, ditches, waterways and other facilities, both public and private, by which storm water is conveyed. The MS4 is separate from the City's sanitary sewer system, which goes to one of the City's two wastewater treatment plants. Discharges to the MS4 do not get treated; they flow directly into area creeks, rivers and lakes. Once there, it can negatively impact our waterways.

The Federal Clean Water Act mandated a program to address "point" sources of pollution, called the National Pollutant Discharge Elimination System (NPDES) program. This program requires permits on wastewater discharges and certain stormwater "point" sources, including municipalities, industrial sites and construction sites.

Getting Started: Developing & Maintaining your Storm Water Pollution Prevention Plan (SWPPP)

Before beginning construction, you must secure a City Land Disturbance Permit. The first step is to submit a SWPPP to the City for review. The SWPPP is comprised of a erosion and sediment control site plan as well as a narrative document. The SWPPP should be designed to identify potential sources of stormwater pollution and describe the **Best Management Practices (BMPs)** that will be employed to reduce pollutants leaving site. For a template and additional guidance, visit:

http://www.springfieldmo.gov/stormwaterpollutionprevention

Common SWPPP objectives are:
- Stabilize the site as soon as possible
- Protect slopes and channels
- Control the perimeter of your site
- Follow pollution prevention measures
- Minimize the area and duration of exposed soils

During construction, remember that the SWPPP is a living document that should include changes and modifications. If you find that a BMP is not working and you decide to replace it with another BMP, you must reflect that change in your SWPPP.

The SWPPP also includes site inspections, which are required at least once per seven calendar days, or within 48 hours of a rainfall event which causes stormwater runoff to occur on-site. For a sample inspection checklist, visit:
http://www.springfieldmo.gov/erosionenforcement

Stormwater Quality Division
Environmental Resource Center
290 E Central
Springfield, Missouri 65802
Phone: 417-864-1944
Fax: 417-864-1499
http://www.springfieldmo.gov/stormwater

Visit our local watershed groups:
James River Basin Partnership
jamesriverbasin.com
Watershed Committee of the Ozarks
watershedcommittee.org

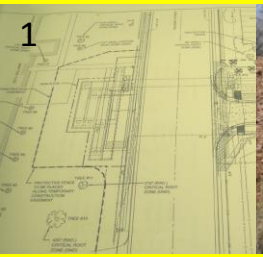
Visit bigurbie.org to learn about recent and upcoming watershed improvement projects.

Land Disturbance Permits

Sediment and Erosion Control Best Management Practices (BMPs)

Best Management Practices (BMPs)

The Best Management Practices (BMPs) shown on the site plan below are procedures that should be used to prevent pollutants, such as sediment and construction materials, from entering our storm drains and polluting our waterways.



When does a site need a City Land Disturbance Permit?

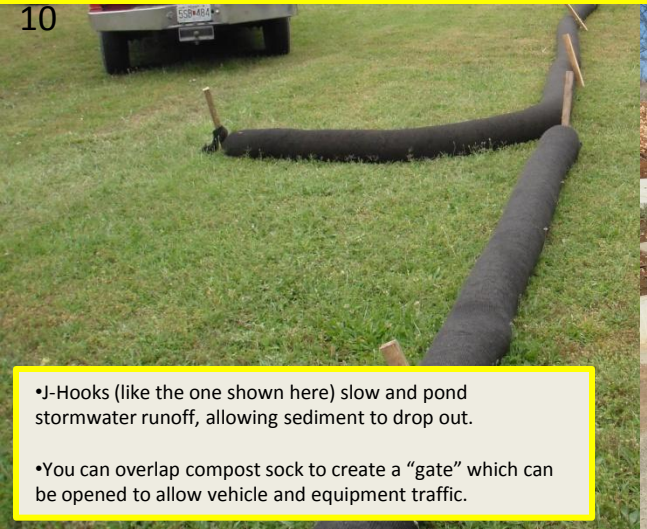
Any land-disturbing activity that will result in a total land disturbance of equal to or greater than 1 acre over the lifespan of the project.

1 acre = 43,560 square feet

Disturbances include but are not limited to:

- Construction/redevelopment of buildings, parking lots, etc.
- Demolition projects that disturb below base material
- Grading, excavation and fill activity
- Borrow/fill sites

Protecting our streams from sediment. Clockwise from top left 1) Plan ahead. Disturb only one part of the site at a time, and be sure to install sediment control devices prior to disturbance. Do not leave bare soil for extended periods of time. Instead, stabilize the exposed area before moving to the next phase; 2) Vegetation slows runoff and provides erosion control. If possible, leave strips of vegetation along the perimeter of the site and along any water bodies or drainage ditches; 3) Protect areas that provide environmental and aesthetic benefits, including trees, gardens, ponds, etc. Mark these areas clearly, and fence them off if necessary; 4) Cover and protect chemicals after they are open. Keep materials elevated above the ground to prevent comingling with stormwater runoff; 5) To prevent sediment "track-out" from vehicles and tires, stabilize the entrance with a pad of gravel or other BMP. It may be necessary to add fresh gravel as the exit becomes saturated with sediment; 6) Prevent excessive dust and soil erosion through the use of a tarp for dirt, gravel, and sand that must be stored on-site. Control dust by sprinkling water until soil is moist; 7) When pouring concrete on-site, either have drivers leave the site to rinse out their trucks, or install a concrete wash-out pit that is lined with plastic . The water will evaporate, and the hardened concrete no longer poses a threat to stormwater quality; 8) Stabilize bare soil with seeding, sodding, mulching, soil roughening, geotextiles, etc; 9) Storm drains flow directly to our creeks. Nothing but rainwater shall enter them. You must prevent sediment and pollutants from leaving your site. Inlet controls, such as sand or gravel bags, compost sock, etc., can be used to keep sediment from entering the storm drainage system; 10) Use silt fence, silt sock, or other BMP to trap sediment before it leaves the site or enters a waterway. Avoid running over perimeter controls with vehicles or heavy equipment, as they can damage the materials. Remove sediment build-up at 50% of total capacity for silt socks and at 6" sediment depth for silt fence.



- J-Hooks (like the one shown here) slow and pond stormwater runoff, allowing sediment to drop out.
- You can overlap compost sock to create a "gate" which can be opened to allow vehicle and equipment traffic.

Keeping your Construction Site in Compliance

- Know the forecast. Is it supposed to rain soon?
- Conduct weekly and post-rainfall inspections to assess BMP effectiveness.
- Maintain BMPs in order to keep sediment on-site.
- Document any and all changes on the site within the SWPPP.